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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,797	07/26/2002	Achim Gopferich	MB9962P	1932

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STOUT, UXA, BUYAN & MULLINS LLP
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IRVINE, CA 92618

EXAMINER

SILVERMAN, ERIC E

ART UNIT	PAPER NUMBER
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1618

MAIL DATE	DELIVERY MODE
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01/21/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/019,797	Applicant(s) GOPFERICH ET AL.	
	Examiner ERIC E. SILVERMAN	Art Unit 1618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5,9-33,36-38,41-44,63 and 65-74 is/are pending in the application.
- 4a) Of the above claim(s) 11,16-32,63,65 and 66 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,9,10,12-15,33,36-38,41-44 and 67-74 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The reply filed 10/12/2009, containing remarks and claim amendments, was received. Claims 1-3, 5, 9-33, 36-38, 41-44, 63, and 65-74 are pending.

Applicants' submit that claims 1-3, 5, 9-15, 33, 36-38, 41-44, and 67-74 read on the elected species of copolymer capable of binding, but not bound, to a surface; however, claim 11 as amended requires the block copolymer to be covalently bound to surface-modifying substances." Thus, claim 11 withdrawn. Claims 16-32, 63, 65 and 66 are also withdrawn. Claims 1-3, 5, 9, 10, 12-15, 33, 36-38, 41-44, and 67-74 are treated on the merits.

The Examiner notes that claim 11 is a combination of the elected subcombination; claim 11 will be rejoined when parent claim 1 becomes allowable.

Specification

The disclosure is objected to because of the following informalities: The specification at page 30 indicates that NH₂-PEG-PLA was synthesized in accordance with the Kricheldorf and Pennings references. These references are of record; neither of the references teaches the synthesis of NH₂-PEG-PLA. The specification should be corrected so that it no longer implies that the synthesis of NH₂-PEG-PLA is according to the methods of those references.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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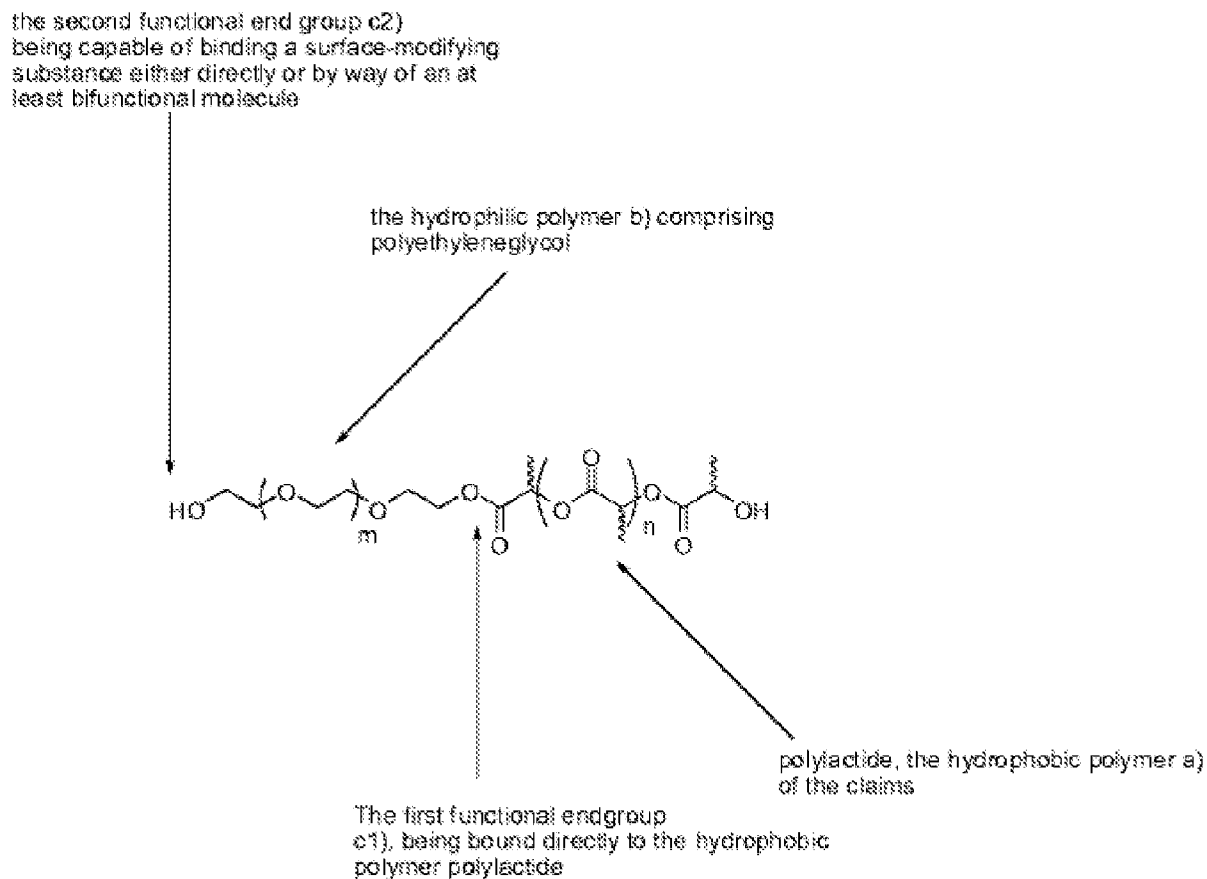
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims -3, 5, 9, 10, 12-15, 33, 36-38, 41-44, and 67-74 are rejected under 35

U.S.C. 103(a) as being unpatentable over US 6,365,173 to Domb in view of US

Greenwald.

The teachings of Domb were discussed previously, especially in the office action mailed 9/4/2008. Importantly, Domb teaches the polymer depicted below, which is used for binding to surface-modifying substances such as drugs and the like.



The difference between Domb and the claims is that the claims require a PEG with a terminal primary amine (that is, PEG-NH₂), whereas Domb teaches PEG with a terminal hydroxyl group (that is, PEG-OH).

Greenwald teaches the use of amino-PEG to attach molecules, such as molecules that would qualify as d) of instant claims, to PEG. Scheme 1 and Example 2.

It would have been prima facie obvious to a person of ordinary skill in the art at the time of the invention to substitute PEG-amine for hydroxyl-PEG in Domb. The PEG-OH and PEG-amine are taught in the art to perform the same function, namely to bind to other molecules (such as d) in the claims). The result would be the instant invention, that is, the polymer of Domb wherein the group c2) (hydroxyl in Domb) is replaced with primary amine.

Note that claim 71 requires that the block copolymer have the ability to attach d) to c2 by way of particular bifunctional molecules, but does not require that those bifunctional molecules be attached to the polymer.

Claims 1-3, 5, 9, 10, 12, 14, 15, 33, 36-38, 41-44, and 67-74 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,254,890 to Hirose in view of Greenwald.

Hirose was discussed previously, particularly in the office action mailed 9/4/2008. Hirose teaches the same polymer as Domb. The polymer structure is discussed above. Hirose contemplates converting the hydroxyl group to an N-hydroxysuccinamide to facilitate reaction with other molecules such as d) of instant claims.

Greenwald

It would have been prima facie obvious to a person of ordinary skill in the art at the time of the invention to substitute PEG-amine for PEG-hydroxysuccinamide in Choe. The art recognizes the two endgroups as being used for the same purpose: attaching PEG polymers to other molecules. Additionally, the artisan would recognize that PEG-hydroxysuccinamide can only be used to attach the Hirouse polymers to nucleophilic molecules, whereas the PEG-amine can be used to attach the polymer to electrophilic molecules. Thus, if the artisan needed to attach the molecule of Hirouse to an electrophilic molecule, the artisan would substitute PEG-amine for PEG-hydroxysuccinamide with the expectation of success.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3, 5, 9, 10, 12-15, 33, 36-38, 41-44, and 67-72 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Independent claims 1 and 71 require the ability to attach the polymer to d) in an "instant reaction." This makes no sense – no reaction is "instant" in the sense that every chemical reaction requires a finite amount of time. Even reactions involving only the transfer of electrons take up a measurable amount of time. Nor is "instant reaction" synonymous with "concerted reaction," the latter being a term of art referring to reactions where more than one bond is broken or formed simultaneously.

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Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERIC E. SILVERMAN whose telephone number is (571)272-5549. The examiner can normally be reached on Monday to Thursday 7:00 am to 5:00 pm and Friday 7:00 am to noon.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Hartley can be reached on 571 272 0616. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Eric E Silverman/
Primary Examiner, Art Unit 1618